

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

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U.S. PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte RYOICHI SHINJO, MINORU HARADA  
and YUKIKO NISHIOKA

Appeal No. 2005-0070  
Application No. 09/885,102

ON BRIEF

Before KIMLIN, PAK and TIMM, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 13, 14 and 16-22. The examiner has indicated that claims 15 and 23 contain allowable subject matter. Claim 13 is illustrative:

13. An ozone generator comprising:

a pair of electrodes spaced apart in an opposing relationship so as to form a gas flow space therebetween, at least one of said electrodes having a plurality of parallel grooves formed on a surface thereof facing said gas flow space;

electrically conductive members for connecting said electrodes to a power source to apply a voltage between said

electrodes and thereby generate an electric discharge between said electrodes;

a dielectric arranged between said electrodes; and

a gas flow passage including an inlet port for supplying a material gas into said gas flow space, and including an outlet port for discharging the material gas from said gas flow space, said gas flow passage being arranged so that the material gas flows through said gas flow space in a direction transverse to a longitudinal direction of said parallel grooves.

In the rejection of the appealed claims, the examiner relies upon the following references:

Shinjo et al. (Shinjo)	5,538,695	Jul. 23, 1996
Kamiya et al. (Kamiya)	5,549,874	Aug. 27, 1996
Duarte	5,554,344	Sep. 10, 1996
Ishioka et al. (Ishioka)	6,027,700	Feb. 22, 2000
Morihito et al. (JP '627) (Japanese Utility Application)	2540627	Nov. 4, 1992

Appellants' claimed invention is directed to an ozone generator comprising a pair of electrodes in spaced apart relationship in order to form a space for gas flow therebetween. At least one of the electrodes has a plurality of parallel grooves, and the gas flow passage includes inlet and outlet ports which allows for the gas to flow in a direction transverse to the longitudinal direction of the parallel grooves. According to appellants, unlike in the prior art, the present generator provides for the gas to flow over the ridge portions of the grooves "where a high density of discharge will be located during

Appeal No. 2005-0070  
Application No. 09/885,102

operation" (page 3 of Brief, second paragraph). Appellants maintain that "the concentration of ozone generated is greatly improved" due to the direction of gas flow through the generator (id.).

The appealed claims stand rejected under 35 U.S.C. § 102 as follows:

- (a) claims 13 and 14 over Shinjo;
- (b) claims 13, 14 and 18 over Kamiya;
- (c) claim 13 over Duarte; and
- (d) claims 13 and 14 over JP '627.

Also, the appealed claims stand rejected under 35 U.S.C. § 103 as follows:

- (e) claims 17, 19 and 21 over Shinjo;
- (f) claims 17 and 19-21 over Kamiya; and
- (g) claims 16 and 22 over Shinjo and JP '627 in view of Ishioka.

We have thoroughly reviewed the respective positions advanced by appellants and the examiner. As a result, we are in agreement with appellants that the examiner has failed to establish a prima facie case of anticipation under § 102 and a prima facie case of obviousness under § 103 for the claimed subject matter on appeal. Accordingly, for essentially those

reasons expressed by appellants, we will not sustain the examiner's rejections.

Concerning the § 102 rejections, the fatal flaw in the examiner's position is that the examiner fails to point to any description in the applied references of an ozone generator wherein the gas flow passage is arranged to allow gas flow in a direction transverse to the longitudinal direction of the parallel grooves. The examiner concedes that the references are silent with respect to the inlet and outlet ports of the generator, but supports the § 102 rejections on the basis that "an inlet and an outlet port would be inherently included in the apparatus" (page 3 of Answer, paragraph four). However, while it cannot be gainsaid that the generators of the prior art inherently have inlet and outlet ports, the appealed claims call for more, namely, an arrangement of the inlet and outlet ports which produces a gas flow in a direction transverse to the longitudinal direction of the parallel grooves in at least one of the electrodes. Manifestly, there is nothing inherent in such an arrangement.

The examiner also mistakenly states that "it has been within the skill in the art that the manner of operation or functional limitations would have insignificant patentable weight when an

apparatus claim is being considered. See MPEP 2114" (paragraph bridging pages 7 and 8 of Answer). However, it is fundamental that each claim limitation must be given weight and consideration in determining patentability, whether under § 102 or § 103. Although a claimed apparatus cannot be distinguished over a prior art apparatus based on how the claimed apparatus functions, a functional limitation may impart structure to a claimed apparatus, and it is incumbent upon the examiner to demonstrate that a prior art apparatus is capable of performing the claimed function. In the present case, the examiner has not met the burden of demonstrating that the ozone generators of the cited prior art have a structure that has the capability of producing gas flow in a direction transverse to the longitudinal direction of the parallel grooves.

The examiner also states that "in the reference of Shinjo, Fig. 6 is the same as Fig. 11 in the instant application, which illustrates that the gas flows in a direction parallel with or in a longitudinal direction of the grooves" (page 8 of Answer, second paragraph). However, the examiner's reasoning is flawed inasmuch as Fig. 11 of the present application is a depiction of the prior art, not the presently claimed ozone generator.

Appeal No. 2005-0070  
Application No. 09/885,102

The § 103 rejections are undermined by the same basic flaw outlined above.

In conclusion, based on the foregoing, we are constrained to reverse the examiner's rejections.

REVERSED

*Edward C. Kimlin*  
EDWARD C. KIMLIN )  
Administrative Patent Judge )  
  
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Appeal No. 2005-0070  
Application No. 09/885,102

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